of marls and chalk between the Gault or Upper Greensand and the Melbourn Rock, namely, the so-called "Chloritic Marl" (and the "Cambridge Greensand"), the "Chalk Marl" (with the "Totternhoe Stone" in some districts), and the "Grey Chalk." These are subsequently described as to their characters, range, and fossils, according to the several counties and the northern parts of France.

The Middle Chalk (or Turonian Stage) is defined as consisting of zones marked by the occurrence of certain fossils, such as

3. Zone of *Holaster planus*, including the *Chalk Rock*.
2. Zone of *Terebratulina gracilis*.
1. Zone of *Rhynchonella Cuvieri*, or *Inoceramus mytiloides*, with the *Melbourn Rock* at its base.

These successive divisions are described as distributed in the several counties and in the North of France.

Throughout the long series of Memoirs published by the Geological Survey of Great Britain and Ireland, descriptive of the districts already surveyed, there are frequent allusions to the economic materials procured from the land, and to the relative conditions of the soil and subsoil. About 1871 the Geological Survey made a point of mapping the "Surface Drifts," such as the gravels, brick-earth, and boulder-clay, beginning with those of the Midland Counties, so that the agriculturalists of several wide districts have since then had the opportunity of recognizing and studying the nature and origin of the surface soils in connexion with the notes and explanations frequently given in the 'Memoirs.' In fact, the Secretary of the Board of Agriculture, cognizant of the advantages of geology to the farmer, wishes to advance its publicity and causes copies of the Memoirs to be distributed to scientific centres for recognition and review.

A Treatise on Zoology. Edited by E. Ray Lankester, M.A., LL.D., F.R.S., &c.—Part I. *Introduction and Protozoa.* Second Fascicle. 1903. London: Adam and Charles Black.

It has been found necessary to publish Part I. of Prof. Lankester's 'Treatise on Zoology' in two fascicles, and of these the second forms the subject of the present notice. The decision of the editor not to delay the publication of this volume until the first was ready is undoubtedly, both in the interests of the student and the authors of the several sections, a wise one.

Anything like a complete account of the several contributions to this fascicle would be impossible in the space at our disposal. Four in number, they are the work of Messrs. Farmer, Lister, Minchin, and Hickson, whose names are a sufficient guarantee that the quality of the work is not only sound, but of the best that can be got.

Prof. Farmer contributes a section on Animal and Vegetable Cells, wherein he traces the history of the cell from the epoch-making discovery by Hooke in 1665 "of the chambered structure of

plants" to the latest revelations of the modern microscope. Wide though this survey is, and admirable in its treatment, we yet feel some surprise at the omission of any reference to the views of Mr. Sedgwick on the subject of the cell-theory.

The section on the Foraminifera by Mr. J. J. Lister is a monument of thoroughness. Embracing all the results, of any consequence, of the work of others in this field, he has added much that is new, presenting his facts with great clearness and force. We have only one small omission to notice, and that is the absence of Sherborn's 'Bibliography of the Foraminifera' and his 'Index to the Genera and Species of the Foraminifera' from the list of "Literature referred to."

Scarcely less valuable is the section by Prof. Hickson on the Infusoria (Corticata Heterokaryota). It is refreshing to remark in reading this section, and also other sections of this treatise, a more philosophical method of treatment than is to be found in any other similar work.

But the bulk of this book is devoted to what may justly be called the masterly treatise on the Sporozoa by Prof. E. A. Minchin. Remembering the part that many of these lowly organisms play as parasites and the ravages they commit, there can be no doubt but that the decision to make this section as complete as possible will be commended. To the medical man, as well as to the biologist, it will prove a source of great help, inasmuch as the author's account of the life-history of the malaria parasite is the first which has appeared in a general work on natural history in this country. Besides this, however, there is much else in the section that is now, for the first time, placed before the student in a readily accessible form, and a very great deal that is the result of laborious research on the part of the author himself.

Like the earlier parts, the tone of this volume is seriously dignified and the matter of the very best of its kind possible. There is a wealth of illustrations, all of which are excellent and many are new. We await with impatience the appearance of the first fascicle.

We regret to announce the death of Dr. William Francis, for many years one of the Editors of this Magazine, which took place on the 19th January. A short notice will appear next month.